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October 23, 2000

Comments and Additional Information

On

Appeal Resolution for Congaree River in Richland and Lexington Counties, S.C.

Introduction:

The appeal resolution documents for the Richland and Lexington Counties Flood Insurance Studies were prepared and submitted by FEMA to the communities in response to appeals received by FEMA on the revised flood studies. The documents and subsequent meetings were initiated by FEMA in an effort to resolve any questions, discrepancies or appeals concerning the FIS.

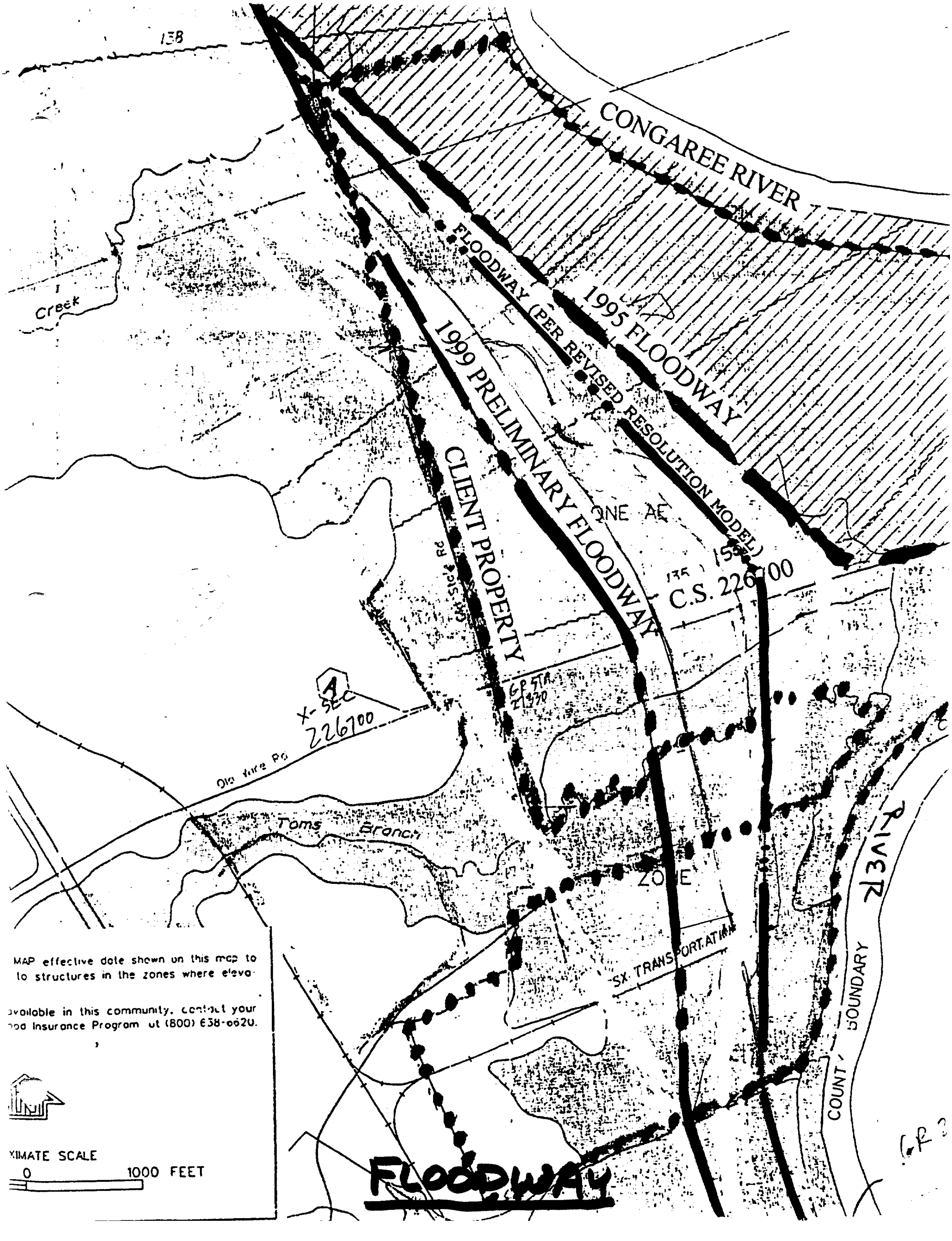
As a part of the appeal process, Braswell Engineering, Inc. prepared a report entitled "Proposed Revision to The Congaree River Floodway at Cross Section 226700, dated November 30, 1999. The report dealt with the "n" value discrepancy found between the actual site conditions and the modeled values and their impact on the resultant flood elevations and floodway configuration.

Additional information is being presented in this report to further support the original appeal data as well as provide the impact of the "n" value change to the resolution floodway model presented by FEMA on October 18, 2000.

Additional Data:

At the request of FEMA representatives and in support of the original appeal request, photographs were made of the Congaree River floodplain conditions within the right overbank area of Cross Section "A" (226700) in Lexington County. The photographs, along with their descriptions and a map showing their location, are contained within the appendix of this report. The photographs clearly support the previous assumption, that the "n" value of 0.03 used in the NH data between GR stations 25101 and 30259.4 was not representative of the existing composite floodplain conditions and that a weighted average value of 0.09 would provide an accurate portrayal of the site. The higher "n" value would also be more consistent with the overbank values used to model upstream and downstream cross sections.

The HEC-2 floodway data for the Congaree River provided and dated October 18, 2000 was revised using the 0.09 value on the NH line between Stations 25101 and 30259.4 at Cross Section 226700. The revised model resulted in a narrower floodway at C.S. 226700 with only a slight increase in the 100-year and floodway elevations above the current (10/18/00) FEMA model. The increase in elevations averaged from 0.1 feet to 0.0 feet from the site upstream to the end of the study reach. The allowable increase in the 100-year elevation due to the floodway encroachment was well below the FEMA and South Carolina maximum of 1.00 foot. An additional change to the model was made which involved revising the encroachment limit on the ET line at C.S. 226700 from 5.41 to 7.41. This change resulted in an efficient floodway while maintaining floodway elevation increases below the 1.00 foot maximum throughout the study reach. This revised floodway model resulted in no significant changes in floodway widths upstream or downstream of C.S. 226700. The average floodway velocities at the section were just over 2 fps with lower velocities out in the overbank areas. With these low velocities, the slight bend in the floodway configuration would have little or no impact on the system. The proposed floodway configuration is shown on the following copy of a portion of the FEMA map.


CONGAREE RIVER
1995 FLOODWAY
FLOODWAY (PER REVISED RESOLUTION MODEL)
1999 PRELIMINARY FLOODWAY
CLIENT PROPERTY
C.S. 226700
X-SEC 226700
Creek
Old Wire Rd
Toms Branch
ZONE
SX TRANSPORTATION
COUNTY BOUNDARY
RIVER
138
MAP effective date shown on this map to
to structures in the zones where eleva-
available in this community, contact your
ood Insurance Program at (800) 638-6620.
XIMATE SCALE
0
1000 FEET
FLOODWAY

Conclusion:

Revising the "n" value at Cross Section "A" would not only provide a more accurate representation of existing conditions but also provide a value more consistent with the adjoining modeled cross sections. By revising the "n" value and fine tuning the encroachment limits, an efficient and viable floodway consistent with FEMA and South Carolina requirements would result.